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AUTHOR Diez, Mary E.
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ABSTRACT

A study examined variation in code choice in the same speakers in two contrasting situations--interorganizational and intraorganizational bargaining. Naturalistic interactions between teams of teacher's union bargaining agents, role-playing teachers, and school board members in the two settings were coded, using measures of structural and lexical complexity, solidarity, and formality of structure, as well as indices of personal reference. Discriminant analysis revealed that a set of structural and lexical variables accounted for significant differences in the structuring of the two types of interactions. The two situations were also found to differ in expressions of solidarity and in structural cues. (An extensive bibliography and tables of data are appended. (Author/FL)

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Situated Code Choice: An Empirical Examination of Two Types of Bargaining Interactions

by

Mary E. Diez

Department of Professional Communication

Alverno College

Milwaukee, Wisconsin 53215

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Abstract

Because communication is the resource by which human interaction is structured, different types of interaction should reveal contrasts in communicative code choice. This study reviews four sets of research on code choice and then examines specific code choices made by speakers in two contrasting situations, inter- and intra-organizational bargaining. Naturalistic interactions between teams of teachers union bargaining agents role-playing teachers and school board members in the two settings are coded, using measures of structural and lexical complexity, measures of solidarity, measures of formality of structure, and indices of personal reference. Differences between the structuring of inter- and intra-organizational situations are hypothesized. Discriminant analysis reveals that a set of structural and lexical variables accounts for significant differences in the structuring of the two types of interaction. The two situations are also found to differ in expressions of solidarity and in structural cues. A comparison with the findings in the four earlier sets of coding studies is made, with particular emphasis on indices of personal reference. Questions for further research are raised.

Situated Code Choice: An Empirical Examination of Two Types of Bargaining Interactions

The definition of communicative competence as the ability of native speakers of a language to produce and interpret language behavior appropriate to situations (Hymes, 1972) has guided much work in sociolinguistics in recent years. Much of that work has concerned the development of communicative competence in children (see, inter alia, Cazden, 1981; Cook-Gumperz, 1975, 1977; Ervin-Tripp, 1973, 1977). Aspects related to adult competence have largely been focused on code-switching in bi-lingual or multi-lingual societies (Haugen, 1972, 1973; Gumperz, 1976; Scotton, in press). While most sociolinguists agree that native speakers have at least two varieties at their disposal even in a single language culture (exemplified for phonetic variation, for example, in Labov's 1972 New York City study as "casual" and "careful" varieties), little work has documented adult language variation in a single language culture.

The focus of this paper is an exploration of adult communicative competence in a specific, culturally defined pair of negotiation situations: inter- and intra-organizational bargaining. Specifically, the interest is in how the same interactants use communication to structure the two types of interaction as distinct events through the code choices they make. The paper will first discuss the importance of such a question. Then it will set forth a definition of "situation" to guide the exploration, examine extant methods of studying code choice, and describe the methods used in the study. Outcomes of the examination of three sets of interactants in the two situations will be presented and the implications for the general study of the relationship between situation and code

choice will be discussed.

Importance of the Question

If we are to understand adult communicative competence as the ability to produce and interpret situated language, we need to begin some systematic examination of how the same speakers make adjustments in their code choices in different situations. While there is general agreement that situations are marked by differences (both verbal and nonverbal) in interaction, there has been little empirical testing of that proposition.

Neglected, too, have been group interaction differences across situations. Giles (1979) notes that most of the research on the relationship between person and situation has been in one-to-one exchanges. Situations that commonly occur as interactions between groups and within groups need to be examined in our search for systematic understanding of adult communicative competence.

Aside from the more general question of adult communicative competence, however, the study of code choice in the two types of negotiation settings fills a gap in the negotiation literature. Most research in negotiation within the disciplines of economics and social psychology has controlled or even eliminated communication processes in order to test for other factors (for a review of this literature, see Putnam & Jones, 1982). From a communication perspective, it seems apparent that a clear understanding of the process of negotiation or agreement-making is tied to understanding the interactants' communicative behavior (Donohue, 1978). This in turn may contribute to our understanding of the impact of communicative choices on other agreement-making situations.

Defining the Situation

It is possible to become embroiled in a dozen controversies in various disciplines related to questions of what constitutes a "definition of the situation."

Most disagreement occurs around issues of where that definition most properly exists, e.g., in the consciousness of the interactants, in their interaction, in the society which provides the conventions which guide interactions, etc. For the purposes of this study, "situation" will be defined as a set of elements that, by convention, operate to make a given interaction-type recognizable--both to interactants and to observers--as one type of interaction rather than another.

While there is strong support for such a view in Levinson's (1978) discussion of activity types and in Hymes's (1964) use of the mnemonic "SPEAKING" for the elements of situation types (see, as well, Argyle, 1981; Avedon, 1981; Magnusson & Ekehammar, 1981), I am not denying the importance of the distinctions made by the various disciplines concerned with participants' awareness of the definition of the situation (see Perinbanayagam, 1981; Stebbins, 1981). For the purposes of this study, I am not arguing that all participants share the exact same awareness of the elements, nor that their self-reports of perceptions would match in all respects. Rather, I assume the kind of shared understanding that allows us to make our way through the conventional requirements of day-to-day activities as we work out what Goffman (1959) calls a "working consensus" (see also Raush, 1972).

Drawing upon several discussions of the elements of the situation important for that conventional understanding (Argyle, 1981; Avedon, 1981; Hymes, 1964; Levinson, 1978), I will focus on four that appear consistently and that allow for operationalization of two distinct situations within an organizational "agreement-making" or "bargaining" framework. These are the goals of the activity, the roles of the participants, any defined patterns of structuring, and the topic under consideration. Each will be briefly discussed below.

Goals of the activity: Observers faced with any situation define it by asking what the participants are trying to do (Gregory & Carroll, 1978). Brown

and Fraser (1979) note that "purpose is the motor which sets the chassis of setting and participants going." While there may be several goals operating in a situation, Graham, Argyle and Furnham (1981) point out that there are also situations in which the primary aim or "what the participants would be likely to be trying to do or to achieve in a particular situation" is clear (see also Higgins, 1981).

Roles of the participants: Recent work has provided support for the notion that role-relationship features, rather than being stable attributes of the persons, may shift depending upon activity and setting (Brown & Fraser, 1979; Ervin-Tripp, 1980). One's role in relationship to another depends upon who the other is in that situation. Are interactants equal or unequal? Friend or foe? To what degree do they share common goals? Role differences like these are important aspects of the definition of the situation.

Conventional structures: Levinson (1978) defines an activity type as a category of "goal-defined, socially-constituted, bounded events with constraints on participants, setting and so on, but above all on the kinds of allowable contributions." To the degree that those allowable contributions include code choice, the study to follow needs to present the case. There are, however, constraints imposed on situations in the degree to which there is a particular form for the interaction in a given situation. For example, one can easily picture the types of formal constraints on procedure that accompany a trial or a debate in contrast to the implicit constraints operating at a cocktail party or a consciousness raising group meeting. Additionally, one might define as a constraint of this sort the degree to which one has to (or even can) prepare one's contributions, as opposed to the degree to which one needs to do continuous monitoring and participate extemporaneously.

Topic: While little has been done to study the effects of topic, Hymes (1964)

includes it as an important influence. Again, it needs to be seen as determining appropriate contributions, a kind of constraint on types of information which may be seen as relevant once the general topic is defined. Contrast, for example, the topic constraints in these situations: a murder trial, a divorce hearing, a church coffee hour, an office cocktail party.

Situation, then, is defined for this study as the set of goals, roles, defined structures, and topical restrictions proper to an interaction. In focusing the question of the effect of situation on language variation, another clarification is in order as well. Language, as is now a commonplace understanding, carries multiple functions. If may be viewed as referential (related to content information), social (related to relational information), as well as structural (related to the organization of talk, in turn taking for example). The main proposition guiding this study is that the inter-relationship among the referential, social and structural functions of language varies according to the specific constraints embedded in the characteristics--goal, role, defined structure, and topic--of a given situation.

Linguistic variation studies

While no previous work has contrasted linguistic features of inter- and intra-organizational bargaining, the examination of linguistic variation has a good deal of precedence in the literature. Code choice, i.e., the use of certain items from the available linguistic variants, has been tied to difference in social class, communicative mode (oral or written), sex, degree of planning, and (generally described) situational elements. Table 1 is an attempt to summarize the findings

TABLE 1 ABOUT HERE

of four strains of research in linguistic coding that appear to have a striking number of elements in common, as well as others that clearly contrast. Using the

table as a starting point, I will here indicate the questions or problems posed by the studies included, for assessing the development of adult communicative competence as a situationally sensitive skill.

Bernstein (1961, 1962a, 1962b, 1971, 1977, 1981) is best known for his examination of variation in code, elaborated vs. restricted, which he attributes to differences in social class. His findings have been consistent over nearly 20 years of study and others have replicated them as well (Poole, 1971, 1972, 1973, 1974). However, his data were all produced through "school situations"--e.g., a group discussion of capital punishment--that avoid to a great degree multiple levels of goals or the social role variation that can be incorporated into other situations. Some critics (Argyle, 1981; Cazden, 1981) suggest that he may be measuring code variation tied to the school setting. It is interesting to note that when different structures (e.g., interviews with probing follow-up questions) or different roles (students asked to role-play the teacher) were included in social class studies, different results were found. Cazden (1981), for example, reviews four studies that show a variation in structure diminishes or altogether wipes out the differences between social class groups in code production. She suggests that differences in situation, including aspects of social role, elicit differences in language behavior. And an intriguing study by Collett, Lamb, Fenlaugh and McPhail (1981) suggests that when students are asked to take a role in which "elaborated code" is the expected mode, they are able to produce appropriate language behavior, even if they have been labeled as "restricted code" speakers through other assessments.

It is not my intent here to critique Bernstein's work. Rather, I use these examples to point out that the absence of situational differences in his studies is a serious weakness. The exclusive use of the school situation limits the

generalizability of his findings. And, for our interest in adult communicative competence, his population of school-age children (and even of college-age students) limits its appropriateness.

Poole (1971, 1972, 1973, 1974, 1979; Poole & Field, 1976), much of whose work replicated Bernstein's studies with Australian youth, branched out into another area by looking at the variation in mode (oral and written) by social class. Poole and Field (1976) found that the differences in mode were greater than any social class differences, thus isolating a structural factor affecting variation. Unfortunately, these studies share some of the other constraints found in Bernstein's work: exclusive use of school settings and populations of school-age subjects. And, even though she introduced a structure difference, the absence of other situational variation is a weakness she herself poses: "Language is a social communication system and, to this end, contextual analysis would seem to be an important facet" (1976:311).

Keenan's (1978) work on differences between planned and unplanned discourse examines one attribute of code choice, but across a variety of situations. Her data base included child-child, child-adult, and adult-adult interaction, although she does not systematically report the numbers of interactions or the variation in goal, role, structure, topic, etc. She generalizes across situations to conclude that where speakers engage in planning before the discourse, they use developmentally later forms. In contrast, she finds unplanned discourse marked by use of earlier forms, even when a speaker has in his/her repertoire a choice of more sophisticated forms.

As a preliminary examination, Keenan's work is intriguing. Her lack of systematic control on the variation in both population and situation, however, limits the generalizability of her findings.

Brown and Fraser (1979; see also Joos, 1962; Fielding & Fraser, 1978) draw together some very general observations about situations in which adults make code choices along a continuum from more formal to more informal. They emphasize social role more than any of the previous three researchers, but do not provide empirical evidence for linking situations with social role and code choice. They call for the kind of study reported here: systematic attempts to explore the effects of a particular situation on code choice.

The major problems in the four sets of research efforts reported in Table 1 and above support the need for the present study, focusing on examination of adult interaction in naturalistic situations that both vary in definable ways and allow comparison of the same speakers' behavior in those situations.

Two Negotiation Situations

Representative of the definitions provided in the literature, an important work by Walton and McKersie (1965) described the two basic situations used in this study. Inter-organizational bargaining involves subprocesses of distributive bargaining, integrative bargaining, and attitudinal structuring between labor and management. Intra-organizational bargaining concerns the process of achieving consensus in each of the interacting groups. These two sets are parallel to what Goffman (1959) called "front region" and "back region" behavior in reference to the interaction of teams.

For Goffman, a "team" is a group that works together to maintain a particular definition of the situation in which they are engaged, "a set of individuals whose intimate cooperation is required if a given projection of the situation is to be maintained." Since communication is the mode by which that cooperation is primarily expressed, one might expect that the communication patterns would be related to any definition of the situation.

Walton and McKersie focused on tactics, rather than on the general functions of verbal and nonverbal communication, as was Goffman's interest. They do, however, give important information about elements of goal, role, structure, and topic, from which we can project how these may constrain interaction in each of the situations.

Goal: In inter-organizational bargaining in a labor-management setting, the goal is to reach agreement with the other side, such that one's own team wins the best possible terms (e.g., in a contract), while maintaining the possibility of an ongoing working relationship (see also Kirkham, 1982; Ward, 1982). While not denying the possible functioning of other goals, most research would support the primacy of this goal (Druckman, 1977; Walton & McKersie, 1965).

In intra-organizational bargaining, the goal is to agree as a team on the strategy to be used in dealing with the other side, based on common, mutual goals. Again, while there are probably more social goals also functioning here (see Goffman, 1959), the activity of planning strategy makes this goal primary.

What expectations, then, can be inferred about the interaction of members within each group and between the groups? Briefly, inter-organizational bargaining would require more planning, to prevent the other side from capitalizing on poorly thought out, ambiguous, or even equivocal statements. The team's careful building of coherence through explicit statement of assumptions and propositions clearly would suggest attention to the referential function of language: a completeness of syntax and preciseness of lexicon. Thus, in these areas, one might expect parallels with elaborated, written, planned and formal code choices (see Table 1).

Intra-organizational bargaining, in contrast, involves participants who can often assume pre-suppositions, the "givens" of their side's position. One can

expect to see the enthymeme in action in their talk (see Jackson & Jacobs, 1980), producing implicit arguments, partial or elliptical utterances, and less clarity of terms--except, of course, when hammering out the precise wording to be used in the other setting. Thus, in syntax and lexicon, the expected patterns parallel restricted, oral, unplanned, and informal code choices.

Role: Whatever other specific role-identities link the participants in a more ongoing way, the salient role-relationship in inter-organizational bargaining is that of opponent-opponent. Using Brown and Gilman's (1960) distinction between power and solidarity as bi-polar "types" of role-relationship, this type of bargaining would reflect the power dimension.

In contrast, intra-organizational bargaining's salient role-relationship reflects solidarity: collaborator-collaborator. While they may not be intimate friends, members of the group share a common bond for the duration of their functioning as a team (Goffman, 1959) that affects their roles in the situation.

While neither Poole and Field nor Keenan directly considered the social elements of language in their coding studies, some similarities can be proposed with those of Bernstein and Brown and Fraser. With a dimension of "power" in the social relationships, the code choices in inter-organizational bargaining ought to be relatively more distancing (Brown & Gilman, 1960). The affect on syntactical and lexical complexity should create parallels with elaborated and formal code descriptions. (While Bernstein also suggests differences in pronoun use related to social factors, these choices may also be affected by topical constraints. Thus, no predictions about particular affect on pronouns will be made here).

With a dimension of "solidarity" prominent in intra-organizational bargaining, the code choices ought to be less distancing, paralleling the syntactical and lexical expectations of restricted and informal code variation. Also predicted for

for intra-organizational bargaining would be specific expressions of solidarity, including what Bernstein calls "socio-centric terms" and the kinds of backchannels described by Yngve (1970).

Structure: Inter-organizational bargaining often takes place in particular settings; some studies note the importance of finding a "neutral ground" for such meetings to give neither side the "home court" advantage (Lieberman, 1979). Similarly, there are restrictions that affect opening remarks, presentation of written materials, and turn-taking itself. In contrast, intra-organizational bargaining's "back region" character makes its only restriction the lack of restriction (Goffman, 1959). Speakers are more likely to enact what Edelsky (1982) calls "shared floor" interaction than to observe strict turn-taking.

While none of the studies detailed in Table 1 look at characteristics of the larger patterns of interaction, the kinds of restrictions placed on the structure of inter-organizational bargaining would be most likely to also impact on structural and lexical complexity, making that interaction, again, more like elaborated, written, planned, formal codes. Specifically, one might also expect longer turns at talk, on the average, and attention to careful turn-taking.

In contrast, the lack of restrictions would impact on complexity in the opposite way for intra-organizational bargaining, making it like the opposite type of code in each case. Mean utterance length ought to be shorter, and there should be more talk-overs, reflecting the freedom of interaction and co-responsibility for decision-making (Edelsky, 1982).

Topic: Inter-organizational bargaining, like Goffman's (1959) "front region" behavior is more likely to focus on the topic under consideration than to allow wide-ranging discussion. The latter freedom might be expected as a "back region" behavior in intra-organizational bargaining. Both situations, however, would be

affected in the same way by some topical restrictions. For specific topics, possibilities of referential linking throughout a discussion would, for example, make the use of personal pronouns more or less likely. This departs from some of the pictures in Table 1, where researchers posited differences in pronoun use based on social factors alone. More likely, those factors function along with whatever referential constraints the topic imposes.

Because the topic in these specific inter- and intra-organizational bargaining sessions included many aspects related to the people (teachers) for whom the contract is being negotiated and the people whom the serve (students, parents, the community-at-large), more pronoun uses in both types is expected than might be predicted by the results of previous coding studies. Moreover, because both groups have "team" identities to maintain, reference to bargainers' position by the use of "we" is expected in both settings.

Hypotheses

Given these expectations based on negotiation and bargaining literature as well as specific similarities between the two bargaining situations and the four types of coding studies, the following hypotheses are proposed, along with one research question:

Hypothesis 1: The complexity of syntactical and lexical aspects of language choice will clearly discriminate between inter-organizational and intra-organizational bargaining interactions.

Hypothesis 2: The expression of solidarity as evidenced by backchannels and socio-centric speech will be significantly higher for intra- than for inter-organizational bargaining interactions.

Hypothesis 3: There will be significant differences in the indicators of structuring in the two situations:

Hypothesis 3a: The mean length of the utterances produced in inter-organizational bargaining will be significantly greater than that of the utterances produced in intra-organizational bargaining.

Hypothesis 3b: There will be a significantly greater number of talk-overs in intra-organizational bargaining than in inter-organizational bargaining.

Research Question: To what degree do other contrasts in the research on coding choices compare with contrasts or lack of contrasts in the data examined? Specifically, what appears to be the pattern of pronoun use?

Method

Subjects

The study examined certain linguistic choices of the same interactants in two settings--inter- and intra-organizational. Taped interactions of teachers who serve as bargaining agents, recorded in training sessions conducted by the Michigan Education Association and the National Education Association, were transcribed and examined. In role-playing either teachers or school board members engaged as bargaining teams, the interactants provided a unique picture of the same individuals' behavior in two settings, between the teams (inter-organizational) and within each team (intra-organizational). The task of the three groups was especially comparable because the same "scenario" of issues to be dealt with was used by all three. And since all had served on their local bargaining teams, they were able to assume either the school board or teachers union position in contract bargaining, where the scenario defined that budget-tightening was affecting salary scale, planning time, allowable leave time, and review procedures. Three sets of tapes, 10-16 hours each, were examined from both audio-tape and typed transcripts.

Measures

To address the organization of linguistic choices that might mark the two situations, two decisions had to be made. First, units were defined as a speaker's turn at talk, i.e., an unbroken utterance. If one speaker spoke simultaneously with another, both utterances were recorded as units. If a break in the talk of one speaker occurred as the result of another speaker beginning, then a new unit was recorded when the first speaker began again. All the transcripts were unitized and numbered.

Second, measures were identified and defined to test the hypotheses and to probe the research question. See Appendix A for procedures included in the coding manual. Because utterances in interaction, particularly in the intra-organizational setting, vary more than utterances in structured interviews and essays (Poole's method) or even classroom discussions (Bernstein's method), measures were devised to yield interval level data, allowing for statistical tests requiring that level.

Measures of syntactical and lexical complexity.

To assess structural complexity, a measure based on the utterance's independent clauses was made. The ratings for a given utterance ranged from (1) no verb present to (6) a compound-complex construction, i.e., one with at least two independents clauses and one or more dependent clauses. The measure of syntactical complexity was based on the assumption that verbs and (through transformational processes) verbals are carriers of syntax. The seven-point scale gave a value based on the proportion of verbs and verbals to total words, again with (1) indicating no verb present.

As measures of lexical complexity, two measures were used: Gunning's Fog Index (Gilliland, 1972) and a listenability index. The former is one of the few "readability" indices based on the number of independent clauses rather than on

the number of sentences, an importance distinction in coding data from naturally occurring interaction. The latter was designed as an attempt to avoid the Fog Index's combination of syntactical structure and lexical difficulty; it uses, again, a seven point scale.

Measures of solidarity

Based on Yngve's (1970) notion of the ways in which speakers reinforce previous speakers, the utterances were coded for the presence/absence of backchannels as one measure of solidarity. Also coded were Bernstein's "expressions of sympathetic circularity," also called socio-centric terms, which include forms like "you know" and tag questions like ". . . isn't it?"

Measures of structuring

Utterance length was used as an absolute count measure, excluding vocal segregates (i.e., uh, uhm, etc.), of a speaker's turn at talk. The presence or absence of overlapping speech for each turn was used to measure the degree of explicit separation in turn-taking.

Measures of personal reference

The measures used to code the use of personal pronouns all follow the pattern used by Bernstein (1967b) and Poole (1971). They include the proportion of personal pronouns to total words, the proportion of "I" pronouns to total pronouns, the proportion of ego-centric terms to total words, the proportion of socio-centric terms to total words (also used as a measure of solidarity) and--an adaptation of Bernstein's scheme--the proportion of "we" pronouns to total pronouns.

Results

Unitizing

Guetzkow's (1950) unitizing reliability--a measure of the disagreement between coders--was .07 for the same two coders doing all three sets of tapes and trans-

cripts. Given the number of talkovers, particularly in the intra-organizational setting, the unitizing reliability was considered adequate.

Coding and Reliabilities

The transcripts were coded by several coders. The author coded all three sets, and student assistants coded significant portions of each, following Guetzkow's procedure of checking periodically for inter-rater reliability. For purposes of analysis, only the author's coding was used, since the data set included 4891 coded units, each with 12 judgments. This was considered acceptable, because the inter-rater reliabilities averaged across all checkpoints for each variable exceeded .82 and averaged, over all categories, .88.

Data Analysis

As a preliminary to examining the results of the statistical tests of the data, some discussion of the data set from a conceptual standpoint is necessary. First, the population being examined in this study consists in utterances, rather than, directly, the human subjects. Moreover, the utterances were produced in natural talk, rather than in experimentally controlled settings. Because all of the literature written about discriminant analysis assumes both operation of experimental controls and (the implicit assumption at least) that populations are of people, interpretation of the results of the discriminant analysis presented here is somewhat problematic.

If the object of interest is the interaction-as-structured by code choice, then it is appropriate to consider utterances the "subjects." In that sense, then, the criterion of separateness of groups required for discriminant analysis can be met. For, while the same people in each training session produced the utterances for both inter- and intra-organizational interactions at their session, the utterances themselves can be exclusively and exhaustively divided into two

groups on the tapes and in the transcripts. In fact, it could be argued that because the same speakers produced both interactions in a given training set, that these data ought to provide a clear test of the impact of the situation as structuring the interaction.

Two other tests are required to test the appropriateness of employing discriminant analysis on the measures of structural and lexical complexity. The data met one required test, using Bartlett's sphericity statistic, namely that the samples' correlation matrices come from multivariate normal populations in which the variables show dependence that is more than random variation. But although the variance-covariance matrices were of full rank, the test for homogeneity of population dispersion was not successful. The Box's M of 1088.6, with an approximate F of 108.73, with 10 and 27711577.3 degrees of freedom, was significant ($p < .0000$). While Nie, Hull, Jenkins, Steinbrenner, and Bent (1970) indicate that the discriminant analysis procedure is robust even in the violation of this assumption, McLaughlin (1980) argues that such failure tends to bias the test in favor of the null hypothesis. Thus, the use of discriminant analysis in this case may provide a more stringent test of the hypothesis.

Hypotheses

Hypothesis 1 predicted that the complexity of syntactical and lexical aspects of language would clearly discriminate between inter- and intra-organizational bargaining interactions. In both stepwise and direct methods, all four variables entered into the analysis. Table 2, the summary table, indicates the standardized

TABLE 2 ABOUT HERE

and unstandardized discriminant function coefficients for each. While all of the variables were significant, the measure accounting for the greatest amount of variation is Gunning's Fog Index (.64580), followed by about equally strong

coefficients for syntactical complexity and listenability (-.45663 and .45049, respectively) and finally that for structural complexity (.29391).

The percent of grouped cases correctly classified was 76.91. Table 3

TABLE 3 ABOUT HERE

shows a breakdown of the classification of cases, allowing for the examination of classification by simulation group. Clearly, in the total picture and in each group, a higher percentage of intra-organizational utterances was classified correctly. Approximately the same pattern of correct classification holds within each of the separate simulation sets.

Thus, hypothesis 1 was supported.

Hypothesis 2 posited that the expression of solidarity as evidenced by backchannels and socio-centric speech would be significantly higher for intra- than for inter-organizational bargaining settings.

This hypothesis was tested first through examination of a dichotomous variable, the presence/absence of backchannels. Since the cell sizes produced by the natural talk were not equal, the appropriate choice for analysis was an unequal n ANOVA, shown in Table 4. The interaction indicated between site and situation

TABLE 4 ABOUT HERE

is not interpretable, given the confines of the theoretical framework employed in generating the hypothesis. However, since the main effects are not disordinal, they may be interpreted. The graphed means show that, while there are differences in the three groups (M, K, and B represent the three training sites), all three are affected significantly by situation in their use of backchannels, giving partial support to the hypothesis.

The other variable used to test the hypothesis, the proportion of socio-centric terms to total words is less easily interpreted. Few of these terms were used in

either setting. A comparison of the means is shown in Table 5, indicating

TABLE 5 ABOUT HERE

the same pattern of difference as the use of backchannels. However, because the data were coded as the proportion of socio-centric terms to total words in each utterance, there were a large number of zero values, making a t-test comparison of means inappropriate. So the data were recoded as presence/absence of socio-centric terms and compared using the chi-squared statistic, also shown on Table 5. Because there were not significant differences within the three examples of each situation type, a comparison between types was computed. The situations were significantly different (χ^2 = 22.55, 5 df, $p < .005$), indicating marked contrast in the use of socio-centric terms. Thus hypothesis 2 was supported.

Hypothesis 3 suggested significant differences in the indicators of structuring in the two situations: (3a) that the mean length of the utterances produced in inter-organizational bargaining would be significantly greater than that of the utterances produced in intra-organizational bargaining, and (3b) that there would be a significantly greater number of talkovers in intra- than in inter-organizational bargaining situations.

Table 6 shows the mean lengths of utterances for the three simulations in each bargaining condition and the overall contrast of mean lengths of 35.73 (inter-organizational) and 12.87 (intra-organizational). Thus hypothesis 3a was supported.

TABLE 6 ABOUT HERE

Using the dichotomous variable of presence or absence of talkovers, the procedure of unequal n ANOVA was used to test hypothesis 3b. The results shown in Table 7 indicate a main effect for situation and an uninterpretable interaction

TABLE 7 ABOUT HERE

between site and situation. Thus, hypothesis 3b was also supported.

Results related to the research question may, first of all, be inferred from the data used in testing the hypotheses. Code choices which generally related more to referential language functions, e.g., structural and lexical complexity and length of utterance follow, as hypothesized, the common pattern reported in studies of all four research strains in Table 1.

Of the more social functions, the findings are mixed. While these data show some support for predictions about distancing (using, again, the same indicators used to determine referential function) and for general solidarity distinctions like those made by Brown and Fraser (1979), other social indicators do not clearly follow the patterns of previous research, for example the co-variance of pronouns with measures of complexity (Bernstein, 1962b). In fact, pronoun use was uninterpretable due to crossover interactions in three cases. The proportion of personal pronouns to total words appears almost random (see Table 8). The proportion of "we" pronouns is puzzlingly disordinal (see Table 9), as is the proportion of

TABLES 8 AND 9 ABOUT HERE

ego-centric terms to total words (see Table 10). Only the proportion of "I" pronouns to total personal pronouns follows the contrast between elaborated and

TABLES 10 AND 11 ABOUT HERE

restricted code patterns (see Table 11).

Discussion

The purpose of this study was to examine variation in code choice in the same speakers in two contrasting situations. How clear are the contrasts? What do they tell us? How similar are the contrasts to those reported in the four sets of coding studies in Table 1?

The findings, of course, are not unequivocal. The discriminant analysis,

using variables of structural and lexical complexity, correctly classified nearly 77% of the cases, but it clearly did a better job of identifying intra-organizational exchange utterances (96%). How can this finding be accounted for? One useful explanation can be made if one pictures code choice as occurring along a continuum, with a baseline of speakers' talk marked for neither extreme. In each situation, the speakers' utterances move out toward imaginary poles, in order to mark the speech as more or less competitive or cooperative, more or less hostile or friendly, etc. (These bi-polar situational constructs were suggested by Wish, Deutsh & Kaplan, 1981.) Except in extreme cases of situational types, a certain amount of speakers' talk would fall into the middle range.

This explanation also accounts for the findings related to solidarity cues. The data show that only about 35% of the utterances in the intra-organizational settings were marked by the use of backchannels; even fewer were marked by the use of socio-centric terms. But an examination of the proportion of utterances so marked across both situations clearly distinguishes between them.

Helpful here is a discussion by Owsley and Scotton (1982), suggesting that adult communicative competence is a matter of the ability to recognize and evaluate--and thus be able to use--clustering of features that mark situational differences. Such competence "includes a component which can sum incidences of related features and evaluate them as percentages in relation to some probability framework" (p. 32). Thus, the production of language marked by a certain percentage of features that move toward the situational "pole" is likely what marks talk as appropriate to that situation.

The groups appear to differ in code choice based to a degree on speakers' idiosyncratic differences, but situational differences are clearly present as a modification of those base patterns. Thus, the study gives empirical support to

theoretical frameworks that identify "situation" as important in the operation of code choice. And, in contrast to previous coding research, it suggests that we are not able to assume that all the elements of code choice cluster in the same way in different situations.

Because this study attempted to study the same speakers in situations with "conventional" expectations of goal, role, and structure as well as specific topic restrictions, the results are able to shed some light on the interrelationships between the elements of the situation and the encoded referential, social, and structural elements of code choice. Specifically, structural and lexical complexity are seen to follow the patterns of all four previous lines of research; these incorporate elements of all three language functions, although the referential appears to be primary. Those social aspects directly related to indications of support or solidarity (i.e., backchannels and socio-centric terms) vary as predicted by the role-relationships conventionally embedded in the given situation. And the structural elements provide a positive test of the assumption of constraints on form of contribution.

The social aspects, however, are revealed by the study to be confounded by referential function or by subtle shadings of meaning. Simple use of pronouns in proportion to total words is probably too gross a measure, as indicated by the contrasts in otherwise parallel findings in Table 1. As argued above, pronoun use is related to topic as well, restricting possible ways to link references coherently to contract terms. Thus, the explanation for the present data's deviation from Bernstein's suggested pattern can be found in a combination of referential and social function and the restrictions of specific topic.

"I" and "we" pronouns and ego-centric terms are less simply interpreted than Bernstein's contrast between the elaborated code's frequent "I" use and the res-

tricted code's "non-I" use implies. For example, the use of "I think" may be either an assertion of power or a hedge indicating tentativeness; coding for its use without attention to contextually identifiable (or intonationally clear) meaning masks subtle, but important, differences. Likewise, "we" may be an indication of team identity in the "back region" expressions of solidarity in intra-organizational settings. But in inter-organizational settings, it is also frequently used. Here the expression of solidarity is the team presenting a united fron vis-a-vis the opposition. And, when used to refer to the total group present in inter-organizational settings, it may be yet another indicator--an imposing directive (as in "Now, we all need to address these issues. . .").

Thus, researchers examining code choice must recognize that the possible meanings of differences is not exhausted by the findings based on coded data. In fact, it is sobering to note that while the "etic" (i.e., objective) categories can be coded reliably, they may not be capturing the "emic" (i.e., meaningful to the speech community) sense of the interaction. One way to deal with this problem is to add the data available in para- and extra-linguistic cues.

Questions of Generalizability

While recognizing that this study is only a beginning attempt to systematically examine code choice by the same speakers in two contrasting situations, nonetheless some attention must be paid to the generalizability of the findings. The data from the three simulations were combined in most of the statistical tests to provide suitable numbers to test the hypotheses. However, the tables of means indicate that the same or similar patterns of variation occurred across all three groups in a given condition, thus lending some support to the claim that the overall picture captured the variations related to situational differences.

A serious question is whether the differences in code choice may be attributed

to differences in the situation rather than be explained by alternative hypotheses. Here the use of role-playing provides a protection against the possibility of unique personal relationships or power differentials impacting the general pattern. The participants clearly had to draw on their general experience as bargainers, but any specific relationships that might have affected their performance were eliminated. (Of course, this point raises another situational factor that may affect code choice in non-simulated bargaining, viz., layers of role relationships developed through ongoing association between participants.)

Finally, while the participants were adults, interacting in naturalistic settings, they shared an identity as teachers union members. Perhaps some limitations in generalizing the findings to persons with less educational training, different socio-economic status, etc., must be pointed to. But these are less drastic restrictions, one might note, than generalizing from a population of college sophomores!

Conclusion

This study has made a beginning in the attempt to meet Hymes's (1974) and Broawn and Fraser's (1979) calls to extend our understanding of situational differences in code choice. Further studies of naturalistic, interactive communication need to be undertaken--not only to probe the richness of situation as structured by communication, but also to develop effective techniques with which to assess the meaningful and often subtle elements of code choice along the continua available to speakers as them structure interaction in varied situations.

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CODING VARIATIONS: AREAS REPORTED IN MAJOR STUDIES	BERNSTEIN		POOLE AND FIELD
	FORMAL/ ELABORATED	PUBLIC/ RESTRICTED	WRITTEN
GRAMMATICAL STRUCTURE			
Accuracy	Accurate grammatical order, syntax	Less accurate grammatical order, syntax	Generally accurate grammatical order, syntax
Complexity	Grammatically complex structure	Short, simple, often unfinished	Generally more complex
Special constructions	? (See specifics below)	? (See specifics below)	? (See specifics below)
Use of subordinate clauses	Marked by use of subordinate clauses	Little use of subordinate clauses	Generally more use of subordinate clauses
Use of prepositions	Marked by use of prepositions	Less use of prepositions	?
Use of adjectives	Marked by use of a range of adjectives	Little range in use of adjectives	Generally more use of adjectives
Use of adverbs	Marked by use of a range of adverbs	little range in use of adverbs	Limited use of adverbs
Use of individual qualifiers	Marked use of individual qualifiers	Little use of individual qualifiers	?
Use of personal pronouns	Frequent use of "I" Less use of other personal pronouns	More use of personal pronouns other than "I"	Fewer indices of personal reference
MEANING AND REFERENCE			
Explicit vs. implicit	Expression of explicit, complex ideas	Preponderance of implicit meaning	Generally more explicit
Reference cues	?	?	Fewer indices of personal reference
Social cues	More ego-centric speech forms	Expressions of sympathetic circularity More socio-centric speech forms	?

ORAL	KEENAN: PLANNED	KEENAN: UNPLANNED	BROWN AND FRASER: FORMAL	BROWN AND FRASER: INFORMAL
More variation in grammatical structure	Marked by use of developmentally later patterns of syntax	Marked by reliance on developmentally earlier forms	Generally accurate grammtical order, syntax	Marked by use of grammatical "shortcuts"
More simple	More complex	More simple	More complex	More simple
? (See specifics below)	? (See specifics below)	Use of present tense, avoidance of passive voice	Many nominalized constructions	Marked by elaboration of verbs
Little use	More use/more developed form	Little use	More use	Less use
?	?	?	?	?
Limited use of adjectives	?	?	Generally more use of adjectives	Generally limited use of adjectives
More use of adverbs	?	?	Limited use of adverbs	Generally more use of adverbs
?	?	?	?	?
?	?	Marked by deletion of pronouns	?	?
Generally more implicit	Generally more explicit	Generally more implicit	More explicit	More implicit
?	?	Reliance on context for meaning Reliance on deictic markers, repetition	?	Reliance on extralinguistic cues
?	?	?	More impersonal	More personal

Table 2 Standardized and unstandardized discriminant functions, group centroids and significance test, using the direct method.

VARIABLES	Standardized Discriminant Function Coefficients	Unstandardized Discriminant Function Coefficients	Group Means on Discriminant Function	Discriminant Criterion λ	d/f	Chi-Squared
Structural Complexity	.29391	.1633959	Inter-organizational (n=1287)	.15	4/ 4887	568.65
Syntactical Complexity	-.45663	-.3616423				$p < .000$
Gunning's Fog Index	.64580	.1900227	.58768			
Listenability Index	.45049	.5241856				
	(constant)	-1.615088	Intra-organizational (n=3604)			
			-.20998			

CLASSIFICATION RESULTS

Actual Group	No of Cases	Predicted Group Membership #1	#2
GROUP 1 Inter-Organizational	1287	302	985
	Percent	23.5	76.5
Group 2 Intra-Organizational	3604	144	3460
	Percent	4.0	96.0

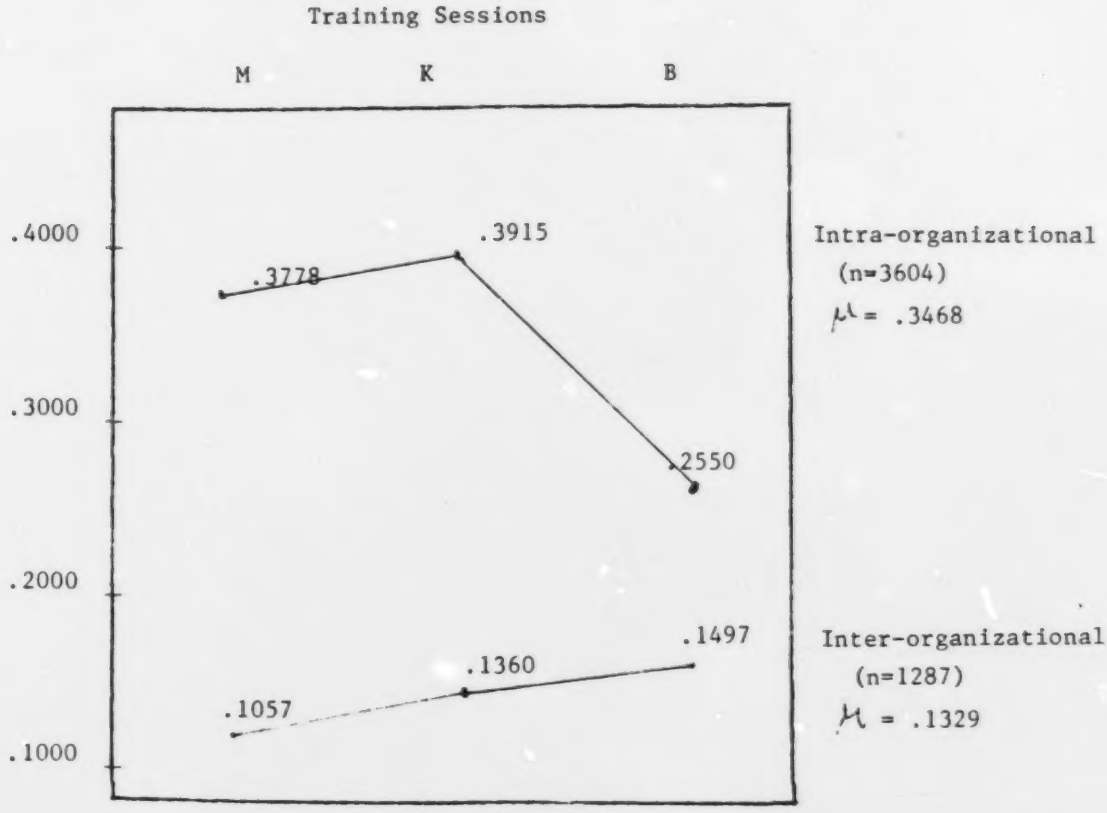
Percent of grouped cases correctly classified: 76.91

Table 3

CLASSIFICATION RESULTS BY SIMULATION GROUP

Actual Group		Predicted Group Membership	
Group M	No. of Cases	1	2
Inter-organizational	350	86	264
	Percent	25.0	75.0
Intra-organizational	180	6	174
	Percent	3.0	97.0
Group K			
Inter-organizational	456	149	307
	Percent	33.0	67.0
Intra-organizational	2263	87	2176
		4.0	96.0
Group B			
Inter-organizational	481	81	400
	Percent	17.0	83.0
Intra-organizational	1161	30	1131
	Percent	3.0	97.0

TABLE 4 BACKCHANNELS



Inter-organizational

n = 350 * n = 456 * n = 481 *

Intra-organizational

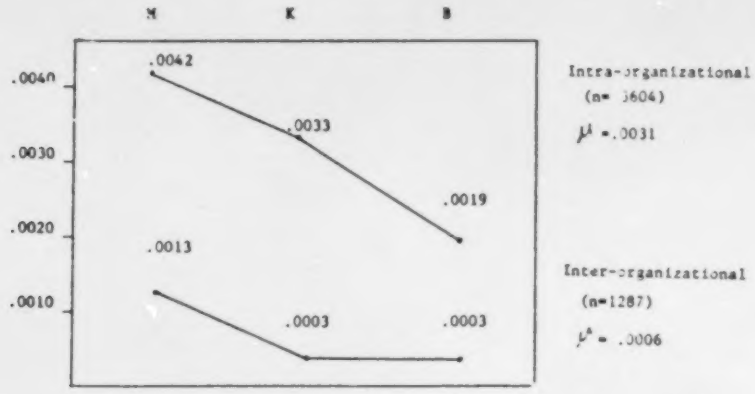
n = 180 * n = 2263* n = 1161 *

SOURCES OF VARIATION

	SS	DF	MS	F	Sign. of F
Main Effects	53.475	3	17.825	91.674	.001
Situation	43.418	1	43.418	223,297	.001
Site	10.057	2	5.029	25.862	.001
Situation X Site	4.833	2	2.416	12.428	.001
Explained	58.308	5	11.662	59.975	.001
Residual	949.843	4885	.194		
Total	1008.152	4890	.206		

* for all tables

TABLE 5 PROPORTION OF SOCIO-CENTRIC TERMS TO TOTAL WORDS: MEANS



PRESENCE/ABSENCE OF SOCIO-CENTRIC TERMS: CHI SQUARED TESTS

Intra-organizational

site	+sc	-sc	total
M	10 (7)	340 (343)	350
K	5 (9)	451 (447)	456
B	6 (10)	475 (471)	481
	21	1266	1287

$\chi^2 = 6.05$

criterion p = .025, 2 df

$6.05 \not> 7.378$

Inter-organizational

site	+sc	-sc	total
M	14 (9)	116 (171)	180
K	111 (113)	2152 (2149)	2263
B	43 (58)	1118 (1103)	1161
	168	3436	3604

$\chi^2 = 3.6$

criterion p = .05, 2 df

$3.6 \not> 3.841$

All groups combined

site	+sc	-sc	total
M	10 (14)	340 (336)	350
K	5 (18)	451 (438)	456
B	6 (19)	475 (462)	481
M	14 (7)	166 (173)	180
K	111 (91)	2152 (2172)	2263
B	43 (46)	1118 (1115)	1161
	189	4702	4891

$\chi^2 = 32.3$

criterion p = .005, 5 df

$32.3 > 16.750$

SIGNIFICANT DIFFERENCE

TABLE 6 LENGTH OF UTTERANCE: MEANS

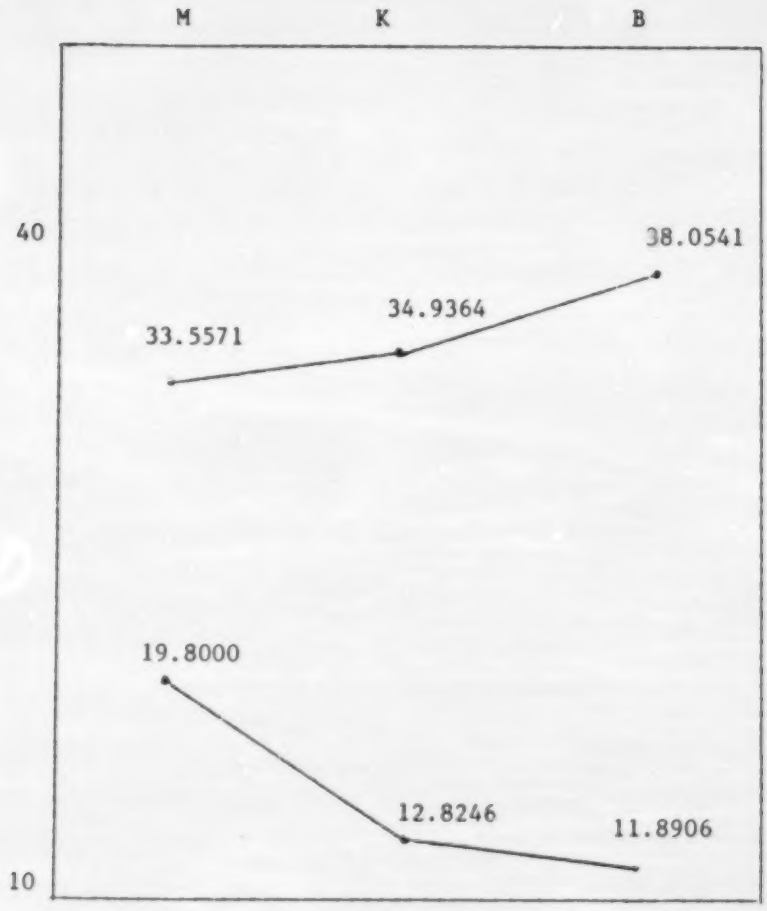
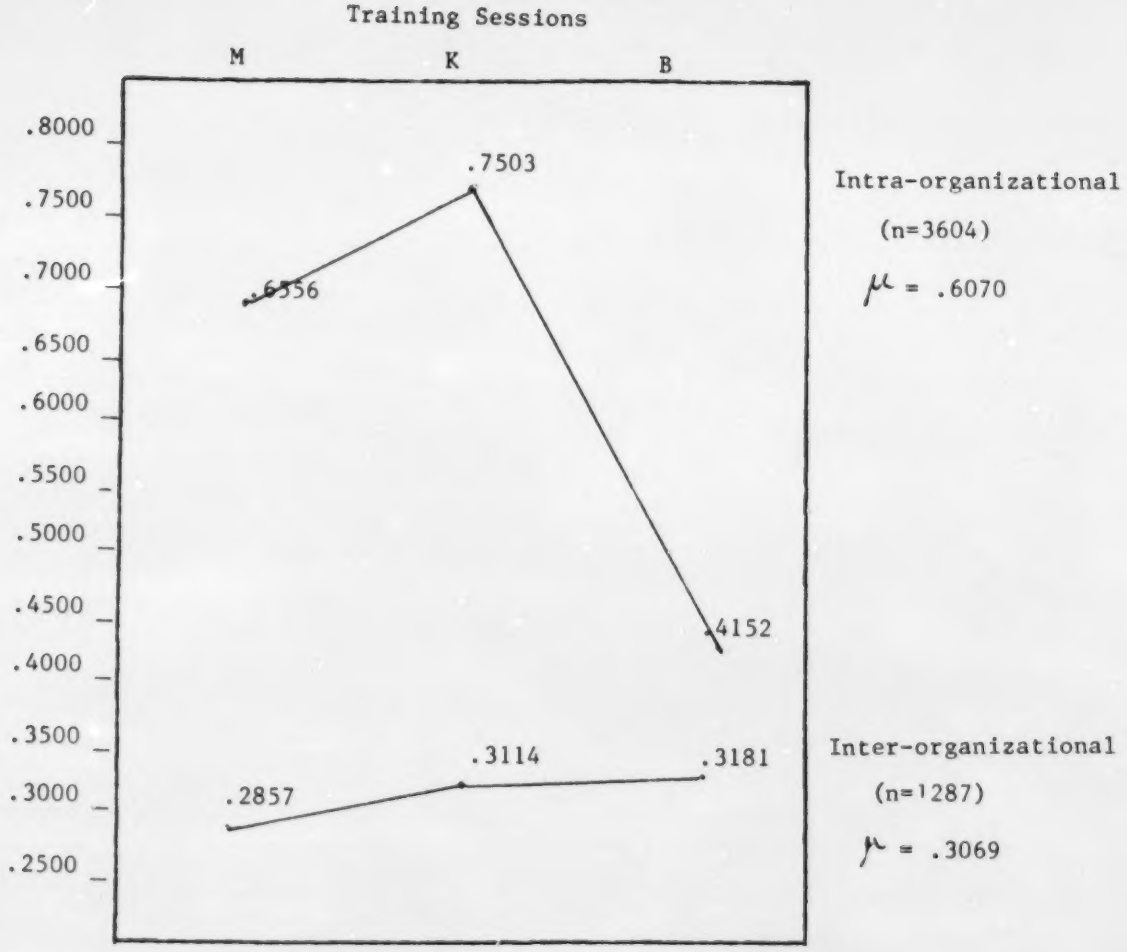


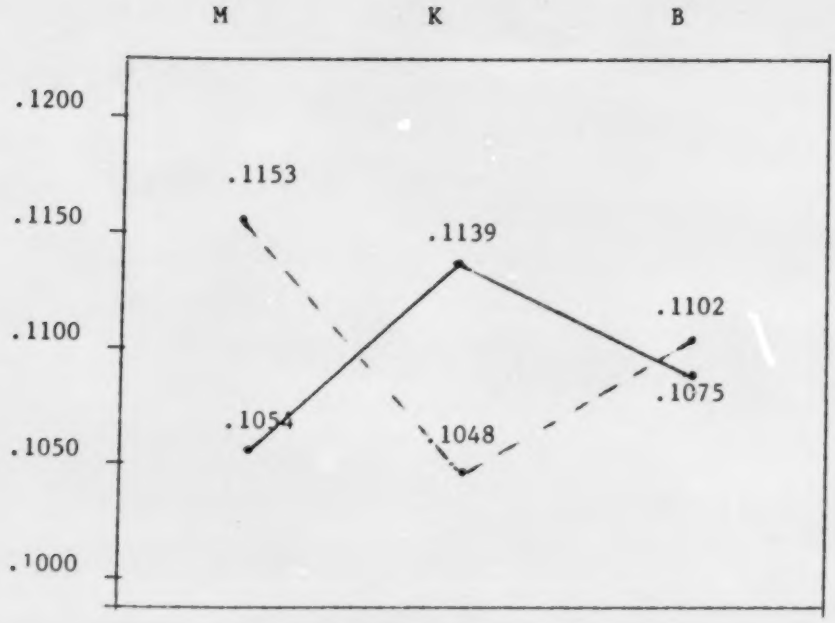
TABLE 7 TALKOVERS



SOURCES OF VARIATION

	SS	DF	MS	F	Sign. of F
Main Effects	168.375	3	56.125	268.790	.001
Situation	103.719	1	103.719	496.725	.001
Site	64.656	2	32.328	154.822	.001
Situation X Site	21.834	2	10.917	52.283	.001
Explained	190.209	5	38.042	182.187	.001
Residual	1020.017	4885	.209		
Total	1210.226	4890	.247		

TABLE 8 PROPORTION OF PERSONAL PRONOUNS TO TOTAL WORDS: MEANS



Intra-organizational
(n=3604) (——)
μ = .1114

Inter-organizational
(n=1287) (- - -)
μ' =.1096

TABLE 9 PROPORTION OF "WE" PRONOUNS TO TOTAL PERSONAL PRONOUNS: MEANS

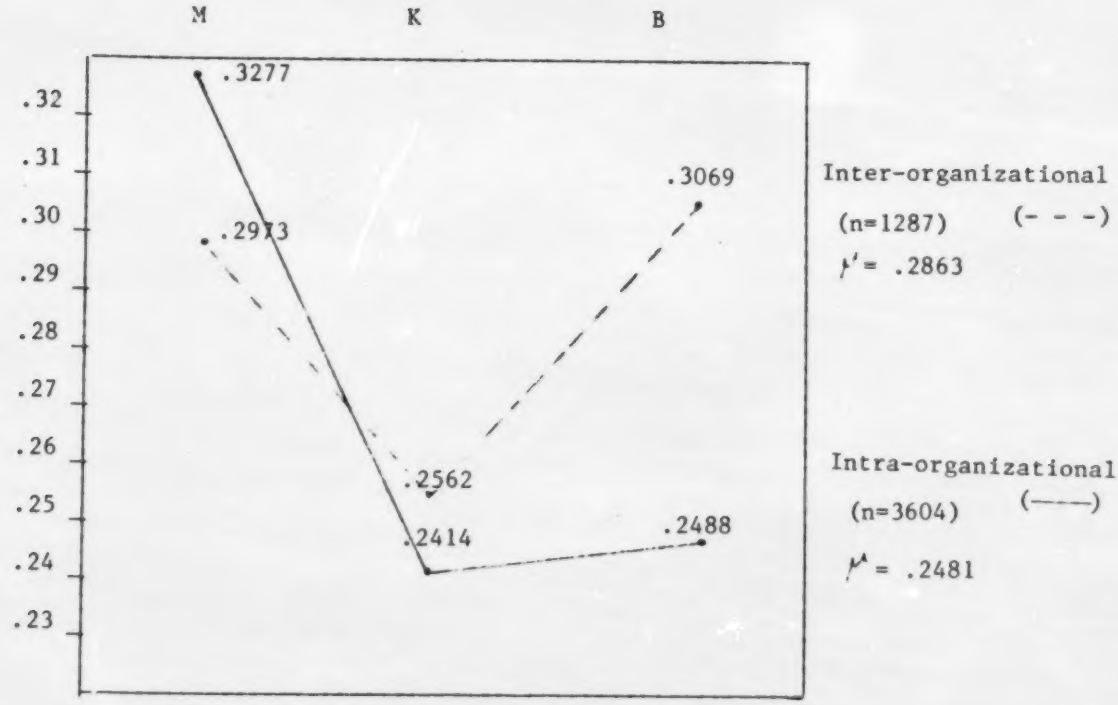
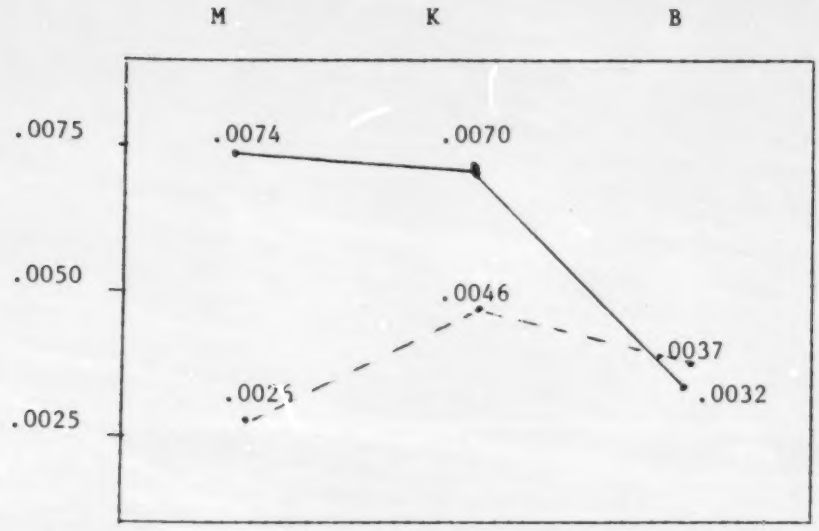


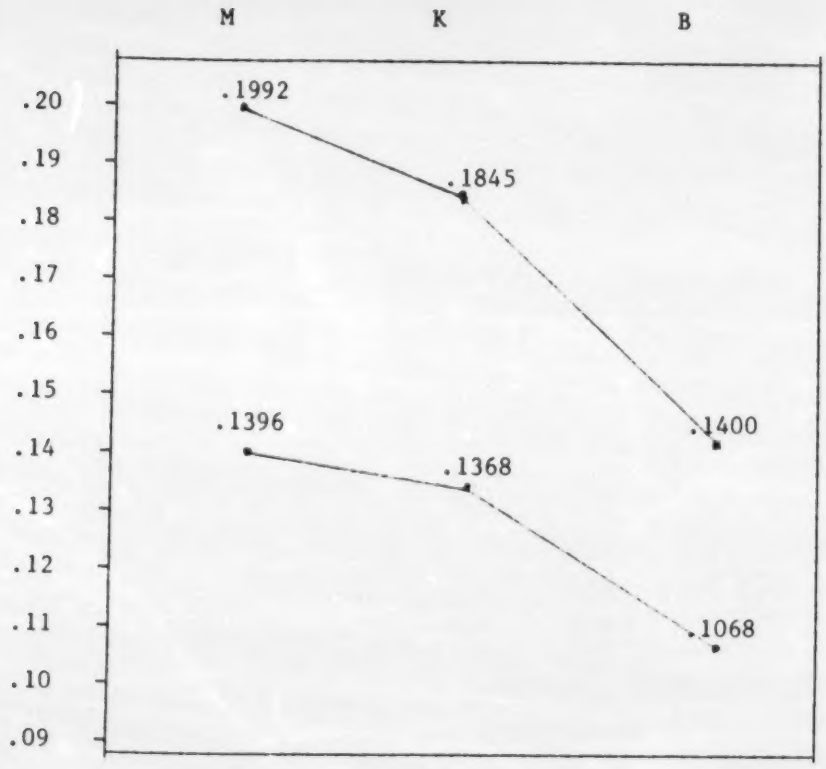
TABLE 10 PROPORTION OF EGO-CENTRIC TERMS TO TOTAL WORDS: MEANS



Inter-organizational
(n=1287) (- - -)
$\bar{x}$ = .0037

Intra-organizational
(n=3604) (——)
$\bar{x}$ =.0058

TABLE 11 PROPORTION OF "I" PRONOUNS TO TOTAL PERSONAL PRONOUNS: MEANS



APPENDIX A

CODING MANUAL

1. UTTERANCE LENGTH

Number of words, not counting uhm and uh. Please do not estimate, even though this will be tedious!

2. STRUCTURAL COMPLEXITY

Use the following code

1--no structures with verb or verbal

2--presence of participial phrase, infinitive, or dependent clause with no independent clause

3--presence of a single independent clause

4--presence of compound clauses, all independent

5--presence of a simple complex construction, i.e. one independent clause with one or more dependent clauses

6--presence of a compound-complex construction, i.e., more than one independent clause with one or more dependent clauses

3. SYNTACTICAL COMPLEXITY

Count the total number of verb forms including, for example, auxiliaries, modals, main verbs, participles, gerunds, and infinitives. Then divide by the total number of words. Multiply by 10 (to get a whole number) and round off to the nearest whole number and add 1. Formula:

$$10\left(\frac{\#\text{ verb forms}}{\#\text{ total words}}\right) + 1 = \text{score}$$

There are two special rules for specific cases:

Rule 1: If there is NO VERB, assign a score of 1

Rule 2: For utterances under 10 words in total length, adjust the final score so that it is no more than the total count of verb forms.

4. GUNNING'S FOG INDEX

Follow these steps:

a. Divide total length by number of independent clauses (X)

b. Count the number of HARD WORDS, here defined as all the words of three or more syllables, excluding

1) proper names

2) combination words, i.e., those made up of short, easy words like bookkeeper or homemaker

3) verbs that have three syllables ONLY by virtue of the inflectional ending (e.g., -ed or -ing)

THEN divide the number of hard words by total length and multiply by 100 to get rid of the decimal (Y)

c. Add X + Y = Z

d. Multiply Z by (.4) to get FOG SCORE

5. LISTENABILITY INDEX

Count the total number of syllables and divide by the total number of words. Round off to the nearest whole number and add 1. Add additional points for "hard words": Count a word as hard if it is Latinate, if it is easily replaced by a more common/simple word, or if it has technical specificity. Formula:

$$\left(\frac{\text{\# syllables}}{\text{\# total words}} \right) + 1 + (\text{\# of hard words}) = \text{score}$$

Special case rule: Single word utterances count 1, unless the word is <u>really</u> difficult.

6. PROPORTION OF PERSONAL PRONOUNS TO TOTAL WORDS.

Divide the total number of personal pronouns by the total words in the utterance. Do not count "it."

7. PROPORTION OF "I" PRONOUNS TO TOTAL PERSONAL PRONOUNS.

   Divide the total first person singular pronouns by the total number of personal pronouns.

8. PROPORTION OF "WE" PRONOUNS TO TOTAL PERSONAL PRONOUNS.

   Divide the total first person plural pronouns by the total number of personal pronouns.

9. PROPORTION OF EGO-CENTRIC TERMS TO TOTAL WORDS

   Divide the number of uses of "I think," "I mean," "I feel," etc. by the total number of words.

10. PROPORTION OF SOCIO-CENTRIC TERMS TO TOTAL WORDS

    Divide the number of uses of "you know," "you see," and tag questions like "..., isn't it?" by the total number of words.

11. BACKCHANNELS

    Simply keep a tally in the space provided on the coding sheet. Mark ✓ if an utterance has ANY backchannels. Count both affirmations like "uh huh" and "yes" or "you're right" and restatements of the previous speaker's idea.

12. TALKOVERS

    Simply put a ✓ where these occur. In the transcript, if a talk-over does not succeed in taking over the floor, there is not a new number given to the turn which continues.